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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,593	11/21/2003	Peng-Cheng Shi	WB88116	3275

7590

06/21/2005

JIANQ CHYUN
INTELLECTUAL PROPERTY OFFICE
7F-1, NO. 100, ROOSEVELT RD.
SEC. 2
TAIPEI 100,
TAIWAN

EXAMINER

HOLLINGTON, JERMELE M

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,593

Applicant(s)

SHI, PENG-CHENG

Examiner

Jermele M. Hollington

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2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a dielectric layer [from claims 2-3, 8-9 and 13-14] and a plurality of capacitor sub-plates [claims 6 and 17] must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-9, 11-14 and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Howland (6894519).

Regarding claim 1, Howland disclose [Fig. 4] a method for detecting electrostatic charges (within region 44, area 22 and layer 45) on a wafer (wafer 12) surface (top surface 24), comprising the steps of: (a) disposing a capacitor plate (dielectric layer 36) above a wafer surface (24) on which electrostatic charges are to be scanned; (b) using a movable probe (probe 14) to measure voltages at various locations at the capacitor plate (36); (c) collecting the measured voltage distribution [via means for measuring response 30], and (d) examining the collected voltage distribution [via means for measuring response 30] to identify areas on the wafer surface (24) correspondingly to high electrostatic charge density.

Regarding claim 2, Howland discloses the wafer (12) contains a dielectric layer (dielectric layer 36) at its outmost surface.

Regarding claim 3, Howland discloses the dielectric layer (36) is an oxide layer.

Regarding claim 5, Howland discloses the capacitor plate (36) is structured such that it can be moved both vertically and horizontally [via chuck 28] above the wafer surface (24).

Regarding claim 6, Howland discloses the capacitor plate (36) is made of a plurality of capacitor sub-plates (area 22) electrically insulated from each other.

Regarding claim 7, Howland discloses [se Fig. 4] a method for detecting electrostatic charges (within region 44, area 22 and layer 45) on a wafer (wafer 12) surface (top surface 24),

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comprising the steps of: (a) disposing a capacitor plate (dielectric layer 36) above a wafer surface (24) on which electrostatic charges are to be scanned; (b) attaching a probe (probe 14) on the capacitor plate (36); (c) moving [via chuck 28] the capacitor plate (36) horizontally above the wafer surface (24) so as to allow the probe (14) to measure voltages at various locations above the wafer surface (24); (d) collecting the measured voltage distribution [via means for measuring response 30], and (e) examining the collected voltage distribution [via means for measuring response 30] to identify areas on the wafer surface (24) correspondingly to high electrostatic charge density.

Regarding claim 8, Howland discloses the wafer (12) contains a dielectric layer (dielectric layer 36) at its outmost surface.

Regarding claim 9, Howland discloses the dielectric layer (36) is an oxide layer.

Regarding claim 11, Howland discloses the capacitor plate (36) is structured such that it can be moved both vertically and horizontally [via chuck 28] above the wafer surface (24).

Regarding claim 12, Howland discloses [see Fig. 4] an apparatus method for detecting electrostatic charges (within region 44, area 22 and layer 45) on a wafer (wafer 12) surface (top surface 24), comprising the steps of: (a) movable [via chuck 28] capacitor plate (dielectric layer 36) to be placed above a wafer surface (24) on which electrostatic charges are to be scanned; (b) a movable probe (probe 14) to measure voltages at various locations at the capacitor plate (36), and (c) a recorder (means for measuring response 30) to collect and record the measured voltage distribution.

Regarding claim 13, Howland discloses the wafer (12) contains a dielectric layer (dielectric layer 36) at its outmost surface.

Regarding claim 14, Howland discloses the dielectric layer (36) is an oxide layer.

Regarding claim 16, Howland discloses the capacitor plate (36) is structured such that it can be moved both vertically and horizontally [via chuck 28] above the wafer surface (24).

Regarding claim 17, Howland discloses the capacitor plate (36) is made of a plurality of capacitor sub-plates (area 22) electrically insulated from each other.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howland (6894519) in view of Jolley (5489557).

Regarding claims 4, 10 and 15, Howland discloses [see Fig. 4] an apparatus method for detecting electrostatic charges (within region 44, area 22 and layer 45) on a wafer (wafer 12) surface (top surface 24). However, he does not disclose a cleansing step using water as claimed. Jolley discloses a cleansing step using pure water or de-ionized water to remove particles or other impurities on the wafer surface [see col. 3, line 60- col. 4, line 12]. Further, Jolley teaches that the addition of a cleansing step using water is advantageous because it helps remove particles or other impurities on the wafer surface after testing. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Howland by adding a cleansing step using water as taught by Jolley in order to remove particles or other impurities on the wafer surface after testing.

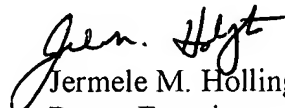
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Slinkman et al (5065103), Thundat et al (6005400), Horner et al (6121783) and Kleiman et al (6417673) disclose a method and apparatus for detecting charges on a wafer using a probe.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (517) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jermele M. Hollington
Patent Examiner
Art Unit 2829

JMH
June 16, 2005